

WHAT IS CLAIMED IS:

- 5 1. An hollow substantially cylindrical radially expandable stent having proximal and distal open ends and a longitudinal axis extending therebetween, said stent for deployment within a human body vessel, said stent comprising:
- 10 a. a plurality of hoops comprising a plurality of interconnected struts, said stent having a proximal end hoop and a distal end hoop wherein said distal end hoop and said proximal end hoop have greater radial and longitudinal strength than the hoops therebetween; and
- b. a plurality of sinusoidal rings connecting adjacent hoops to one another.
- 15 2. The stent according to claim 1 wherein said struts forming said hoops are arranged so as to create a diamond pattern on said hoops.
- 20 3. The stent according to claim 1 wherein said stent is a self expanding stent.
4. The stent according to claim 3 wherein said stent is made from a superelastic nickel titanium alloy.
5. The stent according to claim 1 wherein at least one of said distal and proximal hoops is flared so as to have a larger diameter than a hoop adjacent thereto.

Sub 17
6. A stent graft for deployment within a human body vessel, said stent comprising:

5 a. wherein said graft member is selected from a group of materials comprising: Dacron, Teflon, woven polyester, and polyurethane.

b. a hollow substantially cylindrical radially expandable stent, having proximal and distal open ends and a longitudinal axis extending therebetween, said stent having an interior and an exterior, said stent comprising a plurality of hoops comprising a plurality of interconnected struts, said stent having a proximal end hoop and a distal end hoop wherein said distal end hoop and said proximal end hoop have greater radial and longitudinal strength than the hoops therebetween, said stent further including a plurality of sinusoidal rings connecting adjacent hoops to one another; and

10

15 c. a graft member attached to said body.

7. The stent graft according to claim 6 wherein said struts forming said hoops are arranged so as to create a diamond pattern on said hoops.

20 8. The stent graft according to claim 6 wherein said stent is a self expanding stent.

9. The stent graft according to claim 8 wherein said stent is made from a superelastic nickel titanium alloy.

25

10. The stent graft according to claim 6 wherein at least one of said distal and proximal hoops is flared so as to have a larger diameter than a hoop adjacent thereto.

11. The stent graft according to claim 7, wherein said graft member covers substantially all of said exterior surface of said stent.

30

12. The stent graft according to claim 7 wherein said stent is a self expanding stent.

13. The stent graft according to claim 9 wherein said stent is made from a superelastic nickel titanium alloy.

14. The stent graft according to claim 7 wherein said graft member is selected from a group of materials comprising: Dacron, Teflon, woven polyester, and polyurethane.

15. The stent graft according to claim 7 wherein said tab further includes a notch at an end most portion of said tab, wherein said second leg of said staple abuts against and bends around said notch.

16. The stent graft according to claim 1 wherein said staple is radiopaque.

17. A stent graft for insertion into a body lumen in order to repair said lumen, said stent graft comprising:

a. a substantially cylindrical hollow expandable stent comprising a plurality of interconnected struts, said stent having a distal end and a proximal end, and an interior surface and an exterior, at least one of said struts having adjacent first, second and middle apertures extending therethrough;

b. a graft member covering a predetermined portion of least one of said interior surface and said exterior surface;

c. a staple for attaching said graft member to said stent, said staple comprising a crown and first and second legs extending therefrom, said first leg extending through said graft material and through said first aperture, said second leg extending through said graft material and through said second aperture, both of said legs being bent towards said crown such that they extend through said middle aperture.

18. The stent graft according to claim 14, wherein said graft member covers substantially all of said exterior surface of said stent.

5 19. The stent graft according to claim 14 wherein said stent is a self expanding stent.

20. The stent graft according to claim 16 wherein said stent is made from a superelastic nickel titanium alloy

10 21. The stent graft according to claim 14 wherein said graft member is selected from a group of materials comprising: Dacron, Teflon, woven polyester, and polyurethane.

15 22. The stent graft according to claim 14 wherein said staple is radiopaque.